THE

FARMER AND PLANTER,

DEVOTED TO

AGRICULTURE AND HORTICULTURE,

DOMESTIC AND RURAL ECONOMY.

ILLUSTRATED WITH ENGRAVINGS OF

FARM IMPLEMENTS, DOMESTIC ANIMALS, &C., &C.

EDITED BY

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ASSISTANT EDITORS.

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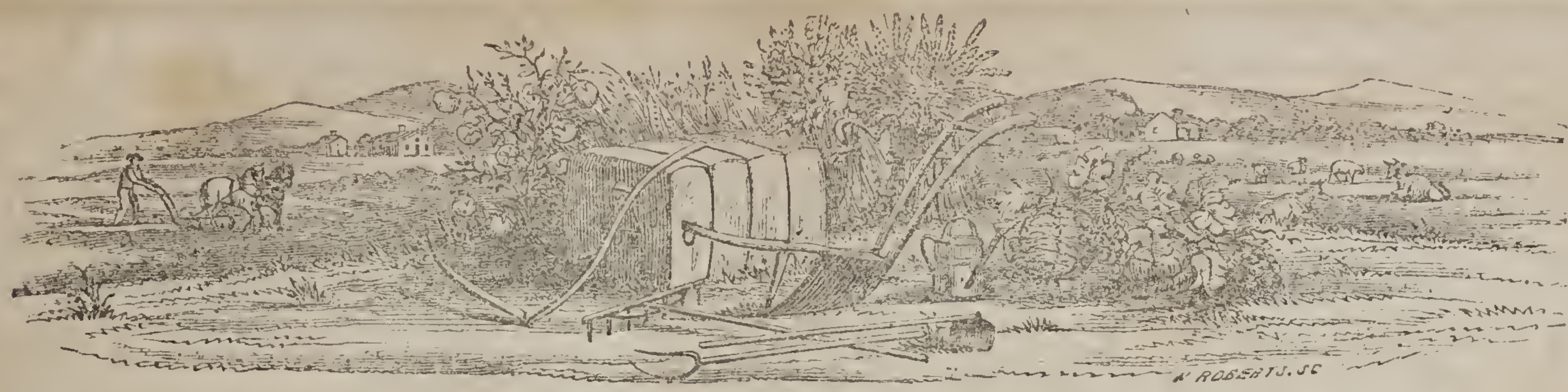

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At a meeting of the Greenwood Agricultural Society, held on 30th October, 1852, it was unanimously resolved, that the address delivered at that meeting by Dr. J. P. BARROTT, be printed in the Farmer and Planter. J. S. CRESWELL,
Secretary.

ADDRESS.

GENTLEMEN :—

We present ourself before you this day to perform a difficult task (to instruct we may or may not be able), but we shall attempt to direct your enlightened observation to topics of the deepest interest to man in the affairs of this world.

We are aware that an address, to please for the moment, should cater to our weakness—should be, as it were, ship-shape, trim and tug---singing praises to all around —talk loudly of progress and improvement, and all such unreal trumpery.

But, gentlemen, we stand before you to day as the exponent of what many of you may call dull reality—Book-learning, nonsensical jargon, or at least wanting every principle of utility. Be it so, we must submit, and attempt to do our duty.

With these preliminary remarks we pass on to notice: First,

Organic and Inorganic Kingdoms.

This wonderful and beautiful world on which we stand, is filled with objects of almost endless varieties of form and structure, action and position. The air we breathe, the dust we tread on, the food we eat, the water we drink, and every thing by which we are surrounded, are either organic or inorganic. These two constitute all that we know of this world. Again, the organic kingdom of nature is separated into two grand divisions, the animal and vegetable. Every being in the organic world posseses organization, or vitality, and have characters of an entirely different nature from inorganic bodies. All organized bodies possess deffinite forms and structures, and are capable of resisting for a time the ordinary laws, by which the changes of inorganic matter are regulated, yet at the same time, internally, they are constantly changing.— And from the first moment of the existence of plants or animals, to their dissolution there is no repose. One age follows another, infancy is followed by youth, and maturity by old age, and to die is the lot of all. The monarch and the peasant, the elephant and the mouse, the whale and the anemaculi, the oak and the moss upon its bark must all die. Life and death are common to all organized beings, these are the terms of existence.

In the gorm of an animal or vegetable there is a vital principle by which, when in action, are developed in succession the ordained phenomena of its existence; by this principle, or power, the germ is able to attract towards it particles of inorganic matter, and, by the chemistry of life, bestow on them an arrangement far different from that which the laws of inorganic chemistry could produce.

Vegetables in common with animals require a supply of food and air, and a temperature in harmony with their constitution for the continuance of their existence. The vital principle not only attracts the particles of matter and preserves them in their new situations, but is constantly active in removing those which might derange or prevent its healthy operations. This goes on till the term of existence is reached, when the vital principle deserts the body it has animated, or the vegetable to which it has given life, when at once they both alike become subject to the agencies which act on inorganic matter, in obedience to the laws of nature chemical action takes hold, and the beautiful form changes for the oblateness of death—the poisonous reptile, and the innocent turtle dove, are alike dissolved by its powers—even woman's beautiful form, with soul-lit eye, must return to dust. We are all in the same category—yes, dust returns to its kindred dust, and the spirit of man to HIM who gave it.

We will next notice briefly some of the distinguishing characters between the animal and vegetable world, for we should have a clear perception of the general phenomena peculiarly belonging to each kingdom. Then when we look upon yonder bird, and on the tree upon which it builds its nest—the horse, the cow the sheep, and on the grass and other vegetable bodies upon which they feed, the difference is so striking and obvious as to deny the admission of a question. Observation and comparison tells us at once they belong to remote and distinct classes of organic nature. But it is far different when we come to look upon those plants and animals the lowest in the scale of vitality--such as that minute

fungi, known as rust on wheat, and the zoophyte attached to the rock. The functions to be performed in both are but few, and the points of difference often obscure. On the dried up plant and the shrivelled up connaline, the eye would seek in vain for characters by which each might be assigned its proper place in the kingdom of nature. Chemistry and the microscope reveal the difference. The first by showing the difference in the chemical composition, and the last the difference in the form and distribution of their vessels. But on our exploration of the phenomena of life, we can determine the difference, as all animals, no matter how minute, possess one common character, that of sensation. This sensation depends on a nervous system, possessed by all animals, from the monad and mite, up to the elephant and man. The sensation of all animals is determined and inseperably connected with the presence and condition of the nerves. Illustration: by touch. Inference: by analogy, as to the most minute animal Feeling and locomotion, voluntary &c.

Difference between organic matter, shown by a chrystal, and the limb of animals or plants: Within the chrystal, every particle is at rest; not so in the animal or plant, one is increased from without, the other from within.

The Relation of Soils to the Rocks on which they Rest.

We shall pass over, for the want of time, many important preliminary remarks, and state the fact, that all soils are composed of decomposed or broken and softened rocks. This brings the observant mind often to a stand, when he discovers many soils composed of different materials from the underlying rocks. This will bring us to notice briefly what geologists call diluvial drift. The uplifting and submergence at different times of vast portions of the earth's crust, must here be taken as antecedent, and consequent to the Present condition of the earth's surface. The physical condition at present reveals the fact. Uplifting of one portion and submergence of another, would produce under well understood physical laws, a mighty rush of waters from one place to another, competent to tear up and carry away the strata of moveable matter, and deposit it at a distance, this all of you who have been observant of the late severe freshets, can distinctly understand. the materials thus brought from a distance is called diluvial drift, and may, or may not, be in relation with the rocks on which it now rests· thus you see beds of sand over-lying stiff clay lands. Very often the whole body of the soil consists of this diluvial drift, as seen in a large portion of our State—the sand hills for example· As to the final causes, we leave as irrelevant to our present purpose. We would here conclude this part of our proposition, by saying that, for the most part, large areas are covered with soil derived from the decomposition of the rocks upon which it rests. We will here notice that rocks must yield to atmospheric influence.—we see that water on freezing exerts its ordinary effects by expansion, and thus breaks up the most stable materials and reduces them to soil. But in this we must not expect to find in full proportion all the elements that composed the rocks, as the rains that fall percolates this matter and carries away its most soluble parts; other elementary portions become gaseous and float away in the morning atmosphere. But in this last nature has instituted a balancing and compensating principle. In the first, the water depos its the soluble matter, and gives an excess of fertilizing materials to flats and bottoms, on the margins of streams.—Here we may observe another fact, that, all soils under cultivation, other things being equal, are reduced to nearly the same state of sterility, and the same elementary insoluble principles would present such as silica and the silicates, alumni and oxide of iron. We would here notice, that a difference in the value of soils is often preserved or increased, by remaining covered by its primeval vegetation. The more a soil is cultivated, the more it differs from the original elements composing the rocks from which it originated. In a word the vital elements are carried away in corn and cotton, and much of the mechanical elements are carried off by surface water. We will leave this part of our subject, and notice the elements of soils—the properties and functions of these elements in their individual and combined capacities.

By the laborious investigations of science, it has been discoverd there are fifty-eight elements of matter constituting the material world, so far as explored. Of these only about fifteen enter into vegetable being. Now the office of these elements is two: the first of these may be termed the vital office. In this first office, the elements perform a specific function in the organization of living bodies.

The second office performed by elementary matter, may be termed mechanical, as they confer on the soil a particular state or condition. We would notice here that simple elements, such as gold, silver, iron, oxygen, clorine, &c., never enter into plants in their simple or uncombined state; nor do they in this state confer any advantagas to the soil, and we might further say, they are in their uncombined state unsuited to the constitution of vegetable life. In nature we always find them in a combined state; water is a combination of oxygen and hydrogen; the atmosphere is oxygen and nitrogen. Iron is found combined with carbon and oxygen. So with every other element. This is all in harmony with the constitution of nature. For an illustration of this fact we will take oxygen; this gaseous element is tritely called vital air—the supporter of vitality, or life. But this must be dilluted with a large proportion of nitrogen, else it destroys rather than supports life, or promotes the healthy functions of organized bodies.

Again, take another illustration, the sparkling diamond is nothing more than pure chrystalized carbon. Should this be reduced to an impalpable powder, still it would be valueless as a pabulum for plants; the carbon must be combined with some other element. We must therefore consider the elements of soils in their compound state, in this state they act as simple bodies; they are homogeneous, and when they enter into combination have the force of a simple substance. No matter how minute the particles may be they are most certainly composed of the same matter, and we would here notice, that in carbonic acid, the pure particle of carbon is entirely inert, until oxygen combines with it and brings about the result of this combination, in the form of carbonic acid. We here see that oxygen is the controlling element of organic and inorganic matter. Before we progress farther in our examination of elementary matter, it becomes necessary, to underetand the part the different elements play, to divide them into two classes.—We begin first with those that are essential to the existence of all organized bodies, animal or vegetable, which are termed by common consent, organic elements; in this class we have only four elements, namely: oxygen, nitrogen, hydrogen and carbon, which we shall notice more particularly, both as simple elements and in their principal compounds.

In the second class, we have eleven elements, which, added to the four in the first class, gives us but fifteen that enter the composition of plants, out of the fifty-eight elements of matter that are known to exist. Now these fifteen elements are all found in soils, as necessary and essential parts of them.

The following eleven simple elements, namely: silex, alumina, lime, magnesia, potash, soda, sulphur, phosphorus, chlorine, iron and manganese, from the part they play in the inorganic world, are called inorganic elements.

We shall now proceed to notice in detail, the first four organic elements, and as oxygen is the controlling element of both organic and inorganic matter, we shall notice it first:

Oxygen

This element when free is a gas, or an invisible æriform body, and is a little heavier than atmospheric air. The constitution of oxygen is such that it readily combines with most other bodies, and while in the act of combination, one general phenomena is presented, called combustion. Whether this combination be rapid or slow, the result is the same.—In a rapid combination, as in the burning of wood, the phenomena is rendered more visible and palpable than is evidenced in the roting of wood or the rusting of iron; in both cases the same amount of light and heat are produced, and the final result in both cases is the same; in both cases the wood is reduced to an oxide; the only difference in the two cases is time (the appeal of our friend "Broomsedge," to us on our "theory and practice," notwithstanding). In burning iron in pure oxygen gas, you have made evident to your senses the ever attendant phenomena of an emission of light and heat, the result will be the formation of oxide of iron. Now if iron be suffered to undergo the slow process of combustion, which takes place when exposed to the ordinary action of the air, the iron will be covered with a red dust, which is nothing more nor less than oxide of iron—in both cases the result is the same. The compounds which are formed in these and all other combinations, where oxygen is an climent, are either oxydes or acids, the properties of which we have not time to examine.

Oxygen may be pronounced almost omnipresent. We know of but few substances that are destitute of it. The range of affinity of oxygen is such, so far and so wide, that we usually find all other elements in combination with it.—There is scarcely a function in the economy of living being performed without it. The leaves of the forest and the field are spread out to exhale it, the roots traverse the soil and penetarte the subsoil to suck up the fluids that contain it, every tissue of animal and vegetable being is formed in harmony with and made to feel its influence. The four grand divisions of the animal kingdom are formed with reference to it; the buzzing insect and the majestic condor, the shrew mouse and the elephant, the whale and the minow, with the type of creation, man, are all dependant upon this life sustaining element.—The solid crust of the earth is half composed of oxygen. Water and air, so essential to the existence of animal and vegetable life, are combinations of oxygen. Rocks and soils are oxides, in a word it controlls, by its combinations, all life and all matter. Such then is its importance that too much of it will destroy both animal and vegetable life, by a too rapid combustion of their organs. Nature supplies it in quantities in harmony with the organism of the different living forms.

We shall now notice another of the four organic elements, called

Hydrogen.

This is an æriform body, the lightest of all bodies that have been examined, it is sixteen times lighter than oxygen. Hydrogen is combustible, and if mixed with oxygen and ignited, or brought in contact with flame, combustion instantly takes, place with a report proportioned to the quantity. The result of this combustion will be a compound of hydrogen and oxygen, in the form of water, in this, water is sinthetically formed, and will be found composed of hydrogen by weight, one, and oxygen eight—or by volume, two hydrogen and one oxygen.

We leave this element and pass on to the next, called

Nitrogen.

Nitrogen is a gas remarkable for its supposed negative properties, it is lighter than oxygen, and we may here notice, that, under ordinary circumstances but feebly attractive of other elementary bodies—of even oxygen; in all attempts of the chemist, by raising the temperature of these two elements, oxygen and nytrogen, in the greatest heat the furnace is capable of producing, they refuse to combine, but if an electric spark be passed through a mixture of these elements, combustion at once takes place, and nitric acid is produced. By this experiment we are brought to conclude that lightning produces a similar combination in the atmosphere this is only a deduction of science. We will speak more of this element when we come to notice its compound existence as atmospheric air, for the present we pass on to the next organic element, known as

Carbon.

The diamond when burned presents us with pure carbon in combination with hydrogen, in combination with oxygen. Charcoal is the common and most familiar form of carbon. This differs but little from the diamond, except in its physical properties. The difference we suppose mainly depends on chrystalization. Carbon forms the solid parts of vegetable bodies. This fact is familiar to all of you who are acquainted with the process of burning wood into coal, Carbon forms the solid parts of animals, except those formed of the compounds of lime. It also enters largely into the composition of fluids. When unchrystalized it is always black. Chalk, lime, magnesia, and many other minerals, are tripple compounds of oxygen, carbon, and the lime, magnesia, &c. Carbon is associated with the oldest products of the organic world, and is brought up from the lowest depths of the earth. Thus it is determined to be next to oxygen in consequsnce; for we would here state, that we think no soil destitute of carbon can possibly produce a perfect vegetable being. All experiments that go to prove the contrary should be viewed with suspicion, for we here assert as a set off to these experiments, that soils heated to a red heat, do not part with their carbon, nor do the acids destroy it.

We would now pass on to notice the principal compounds of the four preceding elements: the fisrt in consequence is Water. This is a compound of hydrogen and oxygen. It is colorless, destitute of taste and smell, becomes solid at 32° Fahrenheit. In this change it expands with great force, indeed it begins to expand 40°, reaching its greatest expansion by the abstraction of caloric at 32°, by calorific action it becomes steam or vapor at 215°—one cubic inch of water expanding to one foot of steam, which is much hotter than boiling water. Steam is invisible till partly condensed by passing into the colder medium of the atmosphere. Water in its natural state is never pure One of its properties is to dissolve the air. It this which gives to water a pleas-

ant and lively flavor, so refreshing to animal being. Water dissolves a number of the gases, salts, sulphates, nitrates and carbonates, depending in this upon the properties of the mineral matters in the earth's crust it passes through.—When any of these salts are in excess, the waters are termed mineral water, some of which exert considerable influence on the animal economy, as modifier of its condition. We have no evidence that water dissolves air which contains this gas. From the researches of chemists, water is found to dissolve the following gases:

Sulphuretted hydrogen	434.0.
Chlorine	434.0.
Carbonic acid	206.0.
Oxygen	12.5.
Nitrogen ann Hydrogen	0.6.

Water is used as the standard of specific gravities, by which all solids and fluids are compared; for example: a cubic inch of granite weighs two and a half times as much as a cubic inch of water. Water, then, stands one in the scale of comparison. The thermal point at which water boils is determined by the pressure of the atmosphere. In our examination of the properties of matter, we discover few substances are strictly anhydrous, or, in other words, destitute of water. Those substances that retain water mechanically, and not in their constitution, may be dried so as to be truly anhydrous. Even here the mechanical combination is of importance in nature. The constitution of animal beings is such, that nearly four-fifths of their matter is water—all of which is lost by simply drying in the atmosphere. Vegetables in the general contain less than animals. The solid parts of vegetable bodies, known as wood, loses in drying at least one fourth of its weight. Fruits and tubes, such as potatoes, contain from 85 to 93 per cent of water, and different grains from 50 to 90 per cent. From this we may conclude water performs an essential function in all organized matter, animal and vegetable. When we examine the elements of water, composed as it is of one of the most combustible elements in nature, and another element the supporter of all combustion, we are struck with astonishment that this compound is one of the most important extinguishers of the fiery elements, and most depended on by us to aid us in this.

We will next notice the atmosphere by which the earth is surrounded, extended from its surface, to the height of forty-five miles. This measurement is indicated by refraction, and we presume approximates the truth, although there are other phenomena which would leave us to infer that it extends to a much greater distance. We may presume the atmosphere to be, and is, acted on by two poises, which, together, fix its limits. This body of æriferm matter, exerts a pressure on the earths surface, of about fifteen pounds to the square inch, pressing equally in every direction. The constiuents of the atmosphere are, nitrogen 80 and oxygen 20, omitting decimals, it exists rather as a mechanical than in chemical union. We may here premise that these two elements would mix as well in any other proportions, but the foregoing are the proportions of nature, and to these proportions all organized beings in their created constitution are determinately fitted, and there is no more free oxygen about this earth, by which these proportions can be changed. The density and pressure of the atmosphere are subject to few changes, little more than in its elementary proportions. When in motion, its weight is somewhat diminished. That property of the atmosphere, which makes it a solvent of water, presents us with another fact of harmony in creation. The physical constitution of the atmosphere was determined by the almighty—living beings with all their functions and apparatus were adjusted to the especial condition of the atmosphere. If the atmosphere was anhydrous, or dry, then organic body that exists in it would have to be in the same condition. The atmosphere is a solvent of water, and to make this more easy to understand, we would say that water exists in the interstices of the atmosphere like sugar in a cup of tea.—There is no chemical reaction between the particles forming new combinations, but mere mehahical mixture under law of capacity.

Our observation teaches us that the constitution of living bodies require a considerable proportion of fluids to sustain life and health. We would here present to you a fact not generally understood, which is, that the rays of the sun in passing through the atmosphere imparts to it no sensible degree of heat. The rays pass freely through the atmosphere to the surface of the earth, and are absorbed and then radiated into the atmosphere, or, rather, the particles of the atmosphere next the earth's surface, and by induction carried upward, from layer to layer, to a certain height. Now, the further these layers are from the earth's turface, the less caloric they receive, till at a certain height the temperature is 32° Fahrenheit. Now you may readily perceive the height at which this effect takes place, must of necessity depend on the quantity of heat the earth receives from the sun, and of course differs in different latitudes. At the equator this point is ascertained to be 15,000 feet above the level of the sea; from this point it constantly approaches the earth, until it reaches the poles, where it sinks below the surface; now you may understand why those high mountains, under a tropical sun, are the abode of perpetual winter. From the epuator to the pole is 90° degrees of latitude, we now stand proximately 34° from the equator, consequently we should here have perpetual winter at an elevation of 9,333⅓ feet above the level of Charleston. Now as the highest mountains on the Atlantic coast does not reach an elvation of 7000 feet, we can have no snow-capped mountains in perpetuo, in the atlantic range—we must now be understood to be speaking of summer.

We would here notice, that one of the most important properties of the atmosphere is, its relations to heat. You can at once perceive that if the atmosphere was capable of being heated by the transmission of the sun's rays, that its heat would be insupportable by all organized beings, under their present constitutional arrangement. Here again we see harmony in aptitude and adaptation, one thing is created in relation to another, in one harmonious chain.

We will next notice the compound of nitrogen and hydrogen, called ammonia, a compound of the greatest importance to vegetable being, as some of our most important grains require its presence in the soil for their full development. Ammonia exists in the atmosphere from the decay of animal and vegetablo matter; in a word, it is developed by chemical reaction in the process of decomposition, and thus escapes into the atmosphere, ready to enter into new combinations, or be absorbed by any porous body in relation with its property of being readily absorbed. This property of ready absorption, may be readily tested by sprinkling lime, plaster, clay or charcoal, over your stable floors, or over decaying animal or vegetable matter. And we would here notice that it is economy in every farmer to husband this compound by some of the above applications, as the ammonia thus becomes fixed in the manure for the use of the plants to which it may be ap-

plied. Ammonia has a very strong affinity for water, and is readily absorbed by this compound of oxygen and hydrogen. For a proof of the power of porous bodies to absorb ammonia, the following experiment may be easily made: Put ammonia into a receiver over mercury, into which pass a little lime, plaster, charcoal, clay, or moist earth, humus, &c., and the ammonia instantly disappears. Clay and oxide of iron in soils perform the very important functions of absorbing ammonia, hence the capacity of clay over sandy soils for wheat, exists in the fact that clay soil furnishes ammonia, from which this cerial forms its nitrogenous matter. From this fact manures for wheat should always be put on clay soils, if we expect to reap the full benefit of the compound element, ammonia; or if put on sandy soils, we should employ some of the above porous bodies to retain the ammonia in a fixed condition, for the use of the plants, or it will pass off into the atmosphere or be carried away with the moving surface. We may thus comprehend the truth of a very common opinion, that manure sinks on sandy soils.

We will next notice sulphur. This is a well known substance, very widely disseminated in the mineral kingdom, the two most common combinations, are sulphurets and sulphates. The sulphurets are sulphur combined with metals, such as iron, &c. In the second, sulphur combines with oxygen, the result of which is sulphuric acid. In this state it very readily combines with earths and alkalies, and in this way forms salts; with magnesia it forms Epsom salts, or sulphate magnesia; with lime it forms plaster of Paris, gypsum, or sulphate lime, &c. Sulphur is obtained mostly from Sicily, as a volcanic product, being the result of sublunation of native sulphurets, in these great natural furnaces. In this state we see it in combination with iron, known as pyrites, from which sulphur may be obtained by washing. Sulphur is found but sparingly in the animal and vegetable kingdoms.

We will next notice the element known as, phosphorous, this element in its pure state is a highly inflammable white solid, comparatively soft and flexible at blood heat, taking fire readily by friction as exemplified in the use of lucifer matches. This element is very abundant in the animal kingdom, and in combination with oxygen forms phosphoric acid, and in this combination, readily combines with lime and many other bases forming salts, but the phosphate of lime is the most common, being an essential constituent of bone and the coverings of many marine animals, in a word it forms the hard and substantial parts of animals, like carbon in the vegetable world. Phosphorous is found though sparsely in the mineral kingdom, it is contained in all good soils, but in very small quantities compared with other elements. We find it here combined with lime, iron and alumina, but it is detected with great difficulty by the Chemist. We have seen accounts of phosphate of lime being discovered in quantity in some locality north, phosphorous and sulpher are constitute parts of proteine, regarded as the basis of albumin fibrine and caseine.

We will next notice acid, and from the importance of knowing something of its range and infinities, we hope to be excused for dwelling a little more at length in our remarks, as carbonic acid is a poison and is a constant constituent of the atmosphere. We know nothing of its origin, but we find it a constant product of resperation and combustion, by these facts we can see that it must be continually escaping into the atmosphere. Carbonic acid escapes from the earth, where it is generated by the action of heat on lime, and other carbonates, it often lurks at the bottom of wells, or pits, and in this way produces death on man and other animals, when forced to inhale it. We would remark, that death is not produced by a simple deprivation of oxygen, but it acts on the animal economy as a narcotic or stupifying poison. Carbonic acid will extinguish a candle if simply poured upon it, hence it should be borne in mind, that the simple method of passing a lighted candle into any suspected place, will readily detect the presence of this life extinguishing carbonic acid gas. So poisonous is this carbonic acid, that if one tenth of the volume of the air we breathe consists of it, it is irrespirable and produces stupor and death, from this fact may be predicated the necessity for well ventilated rooms winter and summer. Here we would notice that the specific gravity of carbonic acid is greater than the atmosphere, yet it does not act like liquids, where the heaviest fall to bottom, but on the contrary, it becomes equally mixed and all parts of a volume is found to contain an equal proportion, or rather the same proportion of the heavier carbonic acid, and the lighter atmosphere. The specific gravity of carbonic acid is 1.52, it dissolves in water, giving it an agreeable acid taste, it becomes liquid under a pressure of 36 atmospheres, or 540 pounds on the square inch, the known pressure of the atmosphere being 15 pounds on the square inch; in the condensing engine, if the pressure be suddenly removed, a portion of the fluid carbonic acid suddenly solidefies, from the rapid loss of heat. Carbonic acid is a solvent of rocks and soils, and has a wide range of affinities, it is a common and very important compound element. This importanee may be comprehended, when we consider with what ease it can be disengaged from the base with which it is combined, this is rendered evident, by the burning of limestone, the carbonic acid is driven off and quick lime results. We now pass on to silex, or silica which is a compound of silicon, and oxygen. Silex is the largest constituent of the crust of the earth, it forms thick strata or large masses, and is largely combined with other elements, forming the extensive class of bodies called silicates, such as silicates of lime, of potash, soda, &c. These silicates, apparently so insoluble serves a very important end in the economy of nature, this insolubility is of vast importance, as the elements are dissolved slowly, in a word, no faster than the constitution of plants demand. In this country soils are mostly silicates, sand predominates in all our lands, we have no large areas in which chalk, or lime is in the ascendency. in the stiff clay soil of Cambridge, nearly 80 per cent is sand, or silex. Silex is a solid, the purest form of which is seen in what is commonly called rock crystal. Some of the white sands are nearly pure silex, and are used in the production of glass, combined with soda. Silica by Chemists, is regarded as an acid, from its peculiar composition, and the compounds it forms, it resists in a remarkable degree atmospheric influences, and is insoluble in water, it imparts to the soil its peculiar gritty feel, it has of itself no adhesiveness, it never sticks together, and when its particles are dry and fine, the mass flows like a fluid, rendered evident in travelling over dry sandy roads, or by the action of the flow in deep sandy soils. The sharp gritty feeling of its predominent element.

We will next consider alumina, and we would here notice the difference between clay and alumina, they are often compounded or used as synonimies, in many agricultural writings. Alumina,

then is the oxide of aluminum. Clay is a silicate ef alumina, mixed with silex and alumina. Alumina is white like silex, but unlike silex, for it is soluble in acids. One property of alumina and of clay, is adhesiveness, soils are close and compact in proportion to the alumina and clay as constituents of the soil. In this we have the simplest form of analysis of soils, and further, clay or alumina, covers the gritty feel of silex, and the more clay the smoother it feels, another property of alumina, is when breathed on, it exhales a peculiar odor called argillaceous. This exhalation is discoverable on a slight shower of rain falling on the warm earth. A soil that has a deficiency of alumina falls to pieces by its own weight; when in excess it is easily kneaded or rolled together, which is known as baking, when ploughed too wet, or trodden by stock when in the above condition, these conditions should be well noticed and understood by the Farmer.

We come now to notice calcium or lime, calcium, is the name given by Chemists to the base of lime. Neither lime nor calcium exist in nature, in the uncombined state. Carbonate of lime, is that compound most familiar to all, this is lime combined with carbonic acid. Rocks of limestone are found more or less in all parts of the earth, it has existed through every geological epoch, some as primitive, secondary and tertiary. Most of the beautiful marbles that adorn the palace are carbonate of lime, large masses of which have been formed from the calcareous tenements, and coverings of molluscous and testaceous animals. Carbonate of lime must be important to vegetable, being as it is found in their ashes. Lime must of necessity exist everywhere. The bones of every animal contain phosphate of lime, the snail shell, the mussel shell, the covering of the tarrapin, the shells of every egg, contain carbonate of lime, in a word, it is essentially necessary to animal and vegetable life in some form, as carbonate, sulphate or crenate, the vital chemistry of the bird works it into their constitution in too forms, phosphate in the bones, and carbonate in the egg shell. Lime has a very strong attraction for carbonic acid and water. this may be seen in the process of quick lime, air slacking. Carbonate of lime operates on soil mechanically like silex, for it has no adhesiveness, being a porous body it absorbes ammonia. Lime and its carbonate is soluble in water, and more particularly soluble, if the water contains carbonic acid, in solution. There is no doubt, lime plays a very important part in the economy of life, as a positive element, also necessary modifier of the different matters produced as manures.

We come now to consider Magnesia. This is a soft white earth, having slightly an alkaline taste, and alkaline chemical reaction, both as a pure earth and as a carbonate, in nature it is very abundant. It is a protoxide of magnesium, and is found in nature as hydrate, a carbonate, a sulphate and silicate, being a constituent of many rocks such as serpentine, steatities and dolomites, known as brown spar &co. About 22 per cent is magnesia. Magnesia enters into the composition of the cereals, and may be considered as a constituent of all good corn and grain soils, it gives to rocks that contain it, a soft soapy feel, from which Steatites are called soapstones. Magnesia is slightly soluble in water, less in hot, than cold water.

We will next consider potash. This is a protoxide of potassium, it is white and is derived most from the lexiviation of wood ashes. The elm, we believe yields more than any other wood, in the soil potash exist in combination with silica, thus forming a substance, but very slightly soluble in water. Potash has such a strong affinity for water that it is impossible to separate it but by forming a salt, such as sulphate, clorale and phosphate of potash, soaps formed with potash are deliquescent, or absorb water, and become soft, It is one of the elements of feldspar, and as feldspar exists in granite and gneiss, we can readily see how this element of potash is furnished to the vegetable. We find it in clay, and clay states. This element is pretty abundant in most of the soils around this place.

We will next notice soda. This is a protoxide of sodium, it is a white powder, and is formed when sodium is burned, in oxygen or dry air. The protoxide when dissolved in water, become a hydrated protoxide of sodium. Soda forms important salts with acids, such as carbonate of soda, sulphate of soda &c., all of which are soluble and are not precipitated from solution. Common salt is a compound of soda and hydrochloric acid. Soda attracts water and carbonic acid from the atmosphere. Soda is used in the manufacture of hard soap, and glass.

We come next to examine the oxide of iron. This compound element is distributed throughout the entire mineral kingdom, it may be said to be present everywhere. The form most familiar, is the red oxide or rust of iron, of this there are two kinds, protoxide, and peroxide, in these forms it is invariably in soils, and is no doubt an essential constituent of many plants, as it is found in the grain of Indian corn, and peroxide in the ashes of many plants. The oxide of iron is of some importance in imparting color to soils, on this depends capacity for absorbing caloric from the sun's rays, as it is generally remarked dark soils are warmer, than light colored under the same temperature of the sun. It is the presence of iron that gives color to most rocks and soils. It exists as a sulphuret almost everywhere.

The next is oxide of manganese. This gives a dark color to soils, but it is not known to enter into plants as a necessary constituent, however it is supposed to give color to the petals of flowers. We find it as an oxide of a black color in almost all soils.

We have thus run over the elements of matter, that particularly concern the farmer, the tiller of the soil. And it may not be irrelevant to slightly notice the temperature of soils. The temperature of different soils not far distant, have been evident to the observant farmer for ages past, but as yet, we know of no regularly instituted observations having been made on the climate of soils. We feel certain, there are certain conditions of the soil, which to a great degree influence its temperature, apart from its place or its latitude. When we look at the modifying influences of water in soils, we can give in to the popular opinion that wet lands are of necessity cold.—This coldness arises from the superabundance of water, submitted to the process of evaporation, as it is a well known fact, that water passing from its liquid form to that of vapor, carries off caloric from all surrounding bodies. Now where there is abundance of water this process goes on rapidly, and the ground must be kept cold by the abstraction of caloric required to convert water into vapor.

Much has been said about improvement in agriculture, but we ask for the proof. Where on the wide area of our country shall we look for it, not surely in the water-worn gullied fields. Shall we be pointed to increased production of cotton, this is blushed away, by increased surface planted, the west and southwes-

tern countries tell the story. In our own country every nook and corner of virgin soil is being called in to aid in this all-pervading cotton making. Can we be shown increased capacity of the soil for the production of the staff of life, let your upward trains railroad cars, and small jobbers in corn, answer, and show in numbers the bushels of corn delivered at one point. Where are the horses and mules raised that draw the plow, and haul the cotton to market. To this question, every mountain gorge, responds, by the long lines of these animal that are ever and anon making ingress into our state. From whence comes our supply of meat, not from our own soil, no, we look beyond the mountains for this, we are dependant on stock speculators, who have no sympathies with us, but for the dollar. Shall we be told of your improvements in the plow, in deep culture. We grant this, but what has this done, or is now doing. It only makes the work of destruction more sure, the last remnants of elementary matter are brought up, to be washed away and lost forever to the soil. Shall we be pointed to improvement in buildings, let the unsightly log-hut and smoky chimnies, speak out. It is true the dwellings have put on a painted dazzling white, plank and paint have done their best. Where we would ask, are the permanent barriers to the encroachment of stock even around the homestead. Where are the gardens teeming with plenteous variety in horticultural products. The ever bearing fragrant strawberry, the raspberry with its scarlet fruit, and many other luxuries adapted to our ardent climate. We talk much of improvement in agriculture, but it is all fudge and gammon. The poverty stricken broomsedge, and the fast growing pine, mocks all your doings and are de facto, the only improvers of the soil.

The picture gentlemen is not over drawn, nor wildly coloured, look under you, and around you, and speak out, and as true men bring forth your verdict.—For what then, we ask have you associated, do you plainly see the certain downward tendencies of the base work of your calling, if so, it is wise, it is manly, to come together, and shoulder to shoulder meet the destroyer; and stay progress. If you love your country and your homes, let this love exert its influences in the improvement of your individual farms, thus will your country smile in plenty. Do, and not talk, give to the soil *its* dues, feed your plants with a liberal hand, give back to the soil more elements than you take from it, the soil is generous, nature is ever active, whether you wake or sleep, the great work goes on. But in the constitution of nature and the constitution of man there is harmony, this harmony must be kept up by the rational faculties and industrial energies of man, action guided by reason is man's part to play in the scheme of creation. We have the negative evidence of the so much talked of improvement in agriculture, in the positive neglect of the press, the only exponent of our calling, we have wafted on every breeze its dying condition, why is this, one of the duties devolving upon this society, is to examine and determine the cause of the sickly existence of their paper, and when the cause is discovered apply the remedy at once, not in homopathic doses, no let the modifiers be administered with bold daring, to raise at once to life and vigor, so that it may stand forth in the pride of manhood, and its sheets teem with life giving pabulum, to our sinking interests. Let every farmer come to the rescue. Who is so poor that he cannot pay one dollar. Who so niggardly as to refuse the paltry sum.—Who so wise that he needs not one dollars worth of knowledge. Who so perfect, that he can know no more, and so selfish, to save the dollar will keep his knowledge to himself. Or who so independant that he needs no help, and on this count can keep the dollar. We think we see a responce in every face, then smother not the feeling, but do your duty, give up the dollar, and bid your paper live,

The age we live in, may be termed the age of utility, and on every subject, we hear the question, "what use is it." So with an agricultural paper, we will endeavor to point out the utility of the farmer having his own literature.

First it is a legacy for the benefit of posterity, to make the past a monitor to the present, the actors of the past, though mouldered into dust, speaking to the present, enabling us to trace back and investigate, the history of our calling, in which investigation, we have chronicled the exertions of mind, labouring on matter; the talents of the age, and the results of industrial energies, on the soil, to bring into action its capacity for production. It is a written history by which we can examine the successive gradations by which agriculture has reached its present condition, giving a tongue to the future. The next generation can be enriched and benefited by the labors of the present. Were it not for this all the works of the present generation would be like the rays of light that illume to day, lost for to-morrow, leaving no trace of having been, behind.

We think there is no problem before us, as to downward tendencies, of the greatest portion of our country in capacity for production. We think no observant man would assert the contrary. This question settled, then it becomes this society to look understandingly on the matter, and so far as in their power, to arrest this condition by every means. Mans mind is constituted in harmony with the laws of nature, and though he cannot, in fact control these laws, he can act and operate in obedience, and appropriate to purposes of his own.—Then it becomes the farmer to study, and understand the laws that regulate matter, by doing this he can keep his soil from washing away, it has been done, it is done, and is now being done, but like everything that is valuable, it requires labor, of mind and body to accomplish, labor is the price, and success is the prize, of all the improvements in ours or any other business in the affairs of the world. We can command nature only by obedience to her laws, we often no doubt exagerate our powers over nature, in the changes that appear to take place in domesticated animals and cultivated plants, all these surprising alterations, result from our assisting the development, of some portions of their natural organization, we create nothing. Man has succeeded in exterpating, some of the inferior animals that stood in his way, the larger beasts of prey have disappeared, but the smaller quadrupeds such as squirrels, hares, rats and mice, have vastly increased, antagonistic to our interests, birds, insects and noxious plants abound, in spite of us, some attack our persons, such as musquitos, ticks, fleas, lice, chinches, &c., others attack our clothing, and others interfere with our agricultural labors, and horticultural productions. For a proof of this, look at the devastation and incepient famine, caused by the microscopic parasite plant, called rust in wheat.—The hessian fly has made man feel its power to do mischief, the locust has often caused famine among the lords of creation, the cenculio robs man of the

finest fruits. We can state it as a fact, that the most minute and insignificant animals, have slain their tens of thousands, look at the encroachments of to man, useless and deliterious plants, in the field, causing the sweat to flow freely from the brow of man, to keep them subjugated, wheat demands all our care to free it from the more prolific, and hardier cheat and cockle. The genius of man is thus called into activity, to keep down the encroachments of to us useless plants. Were it not for that small insect called the weevil, corn could be kept sound for years, wheat would stand in a dry condition the test of time. These facts proclaim aloud, that the aids of science, are necessary to the farmer.

We often behold, the cotton field, and the harvest, raised by the sweat of our brows, destroyed by insects, which we are utterly incapable, of arresting or destroying, with our present knowledge.—which brings us to the conclusion that, not only the laws of inorganic matter should be understood by the farmer, but the laws of organic life, should be comprehended. The business of the farmer, requires the aid of almost every science, he has to do with all nature, even the workings of the remote past modifies his soil, the earthquake and the volcano, the rush of waters, and the tornado, the clouds and the dew drop, the balmy air of summer, and the chilling winds of winter, the heated rays of the summer and the freezing influence of winters reign. Air, earth and water, every element, and every metoric change, modifies his business. Then tell us not the farmer, needs no science, no study, no knowledge but to feed the horse, guide the plow, plant and reap the crop. Tell us not that ignorance is bliss. We have tried the experiment of no science in farming, the result is before us, in the sterilety that reigns around, look at the farmers that have gone before us, truly may it be said "their works do follow them." Water worn gullied and sterile old fields are the works, with such works continued, a poor prophet, could date the time, when haggard, famine, and all its consequences would ten times decimate the land.

But brother farmers we look forward to better things, we think the spirit is abroad, the dawning of a brighter day, scentilations of light break here, and there, and we hope ere long to witness the result, when science and labor, shall kiss each other and hand in hand, shall guide the farmer in all his works. We are aware that a vast amount of long cherished prejudices must be broken down, the fogs of ignorance will then disappear, and the farmer will assume the position, that his calling demands.

We then say to this society, do your duty, let mind and matter all combine to bring about, a better condition of our country, heal its wounds, smooth and enrich its surface, give permanence to the productiveness of the soil, garnish your fields, beautify your homes and all around you, let plenty smile, and comfort greet you. This should be the destiny, this will be the destiny if rightly sought after, of every farmer in the land. So mote it be.

To Young Farmers.—One of the most important parts of a young agriculturist's professional education, is the characteristics, marks, qualities, and capabilities of all descriptions of live stock necessary for agriculture. Some knowledge of sketching or drawing the live animals would be highly conducive to the pupil ascertaining a proper idea of shape and proportion; and should there be an intelligent butcher in the neighbourhood. I would recommend him to see as much *of his* business as he can consistently with his other occupations—to weigh the live animal; from its handling, size, and appearance in his mind; attending the slaying of such animal, examining its weight when dead, and comparing this with his own opinion of it when alive, would all lead him to form more correct and solid opinions in his future transactions with fat stock.—*Lecture on Agricultural Education.*

Headache.—Sage tea is said to be good for a headache. Some people have their headaches cured by fasting and others by feasting. We must place ourselves among the number of those who are never cured by fasting. The head should be bathed once every day; no stimulating drinks should be used. and in all cases persons should have plenty of exercise in the open air.—*Scientific American.*

To Imitate Mahogany.—Let the surface be planed smooth, and rubbed with a solution of nitrous acid. Then apply ,with a soft brush , the following mixture: one ounce of dragon's blood, dissolved in about a pint of spirits of wine, and with the addition a third of an ounce of carbonate of sodor, mixed and filtered. when the polish diminishes in brilliancy, it may be restored by the use of a little cold-drawn linseed oil, dragons' blood, as most of our readers know, is a resin obtained by incision from certain tropical plants, and is sold at the druggists, to the varnishers and marbles stainers.—The method is extensively adopted in France, and might be well adopted in the United states, for the interior decorations fo our dwellings.—*Scientific American.*

Air Plants.—S. S. Osgood, who has recently crossed the Isthmus at Nicaragua, says:—"On every tree I noticed hundreds of air plants, a paracite which attaches itself to any part of the trunk, dead or alive, it matters not which. I have now three hanging up in my state-room, (June 17th) which I gathered at Costollo's Rapids on the 7th. Until we came on board the steamer, a week since to-morrow, they were tumbled about in my basket and other things, and yet they are still living, but not so fresh as I presume they would have been if they had been out in the open air and felt the influence of the rain and dews. They are shapd like the top leaves of the pine apple, and from the centre springs a beautiful orange flower, the upper side of which is a bright yellow."—*New England Farmer.*

Glazing Earthen Ware.—M. Rochinski, a manufacturer of earthen ware at Berlin has found a varnish or glazing for common pottery, which, after trials made in the presence of the College of medicine offers no danger to health and resists the action of the acids. This glazing is composed of five parts of litharge, two parts of well purified clay, and one part of sulphur. These substances are pulverized, mixed with a sufficient quantity of caustic alkaline lye (soap maker's liquor) so as to form a mixture fit to be readily applied on that earthen ware, and to cover it equally all over. Carefully baked, these wares offer no traces of lead.

Breaking Oxen.—The editor of the 'Massachusetts Farmer' recommends the following method of breaking oxen:

'When you first put a yoke on your two-years-old steers, coax them with an apple or an ear of soft corn, (soft corn is allowable in this case) then they will hold up their heads and be glad to follow you. No whip will be needed at the first yoking. Let the yoke and the soft corn be associated in their minds, and they will never be shy of the yoke : but if you use force alone they will hold down their heads to avoid blows. After you learn them to follow you around in the yoke, and that it will not injure them-to carry it, you can hitch them on before the older oxen, and make them take the lead.—

The driver should go beside them occasionally, with a switch-stick or a light and short whip, but he will not have any need to beat them except in extreme cases.'

The Cherokee Rose.

Messrs. Editors.—Meeting with our mutual friend the Hon. J. H. Berry, I am reminded of my promise, to communicate to you my mode of planting and cultivating the Cherokee Rose for a hedge. I have seen it planted in December, January, February and March, and grow well. I would however prefer planting earlier than March so as to receive the winter rains, nearly all I have has been planted in February. I begin after I gather my crop, and get all ready for planting, and then make a general business of it until I am done. If I plant on an old fence row, I pull down the fence, dig up all the sprouts, so that nothing may spring up and grow in the hedge—build up a good fence, which with a very little repair will remain good until the hedge is large enough to do without.—If there is any timber near, I either cut it away or deaden it, for some sixty or eighty feet on each side, as the hedge will not grow well in the shade. I then commence with a turning plough some six or seven feet off from the corners of the fence, and turn the furrows off, until I get up within about three feet. I then run in the last furrow several times, running the bar of my plough the same way, and have the dirt drawn out by the hoe. If there are roots they are cut with the axe and thrown out. I then follow with the spade and trim off the side, which the bar of the plow has been running against, and leave it slightly sloping, and have the dirt drawn out as before. I now have the furrow or ditch some eight or ten inches deep. While this is going on I have some hands prepared with long knives, something similar to cane knives, and also wooden hooks made by cutting forked sprouts or limbs of trees off below the fork, leaving one prong about five or six inches long, and the other some three feet. The hands now proceed to select the longest and thriftiest sprouts, prefering those of last years growth, with the hook they are enabled to disentangle and draw them forward, and by reaching in and giving a hack with the knife they are cut off, then draw them out and throw them upon the ground and by a slanting hack with the knife cut them into pieces some sixteen or eighteen inches long, then by the aid of the fork in one hand. and the knife in the other, they are raked or shoveled up together and placed in baskets or boxes, to be carried to the place of planting. The cuttings being now ready, and upon the ground, they are taken carefully and stuck into the above described furrow or ditch, about three or four inches apart, taking no care as to which end is stuck down, letting them be close up to the sloping side, and slanting to the fence. The ground being somewhat soft at the bottom of the ditch they can be stuck in a few inches, which with the depth of the ditch puts them in some ten or twelve inches. Now let the hands stand on the side next to the fence and reach over with the hoe and draw in the loose earth until the ditch is partly filled, let other hands follow and tread down firmly, continuing to draw in and tread down until the ditch be filled up within an inch or too of the top, then finish off by smoothing up the earth from the first furrow broken to the hedge, leaving it somewhat higher next to it. The cuttings are now in the ground, leaning toward the fence, ten or twelve inches deep, three or four inches apart, and the earth packed firmly against them, which completes the planting. Now after vegetation has put out. As soon as time can be spared, I commence with the hoes, and hoe out the fence corners clean, and likewise out to the hedge row, scraping off every thing from the hedge, loosening up the earth an inch or two for some two feet off, and leaving that side as the other was when planted, a little higher next the hedge. After this at any period during the year that the time can be spared from other labor, (I find almost time enough to keep mine in order by working immediately after rains when the crop cannot be worked to an advantage) put the most of the hands to scraping off from the hedge, reserving a few of the most careful, to follow and pull out with their fingers or gouge out with short paddle shaped sticks whatever may be growing between the cuttings, and also to loosen up the ground with the hoe some two feet on each side. If the row passes over an uneven surface of ground, and which would incline the water to run toward the hedge and form a ditch by its side washing it away. I make frequent short ditches leading off from the hedge, by drawing up with the hoes a ridge giving the necessary fall to carry off the water. Keep the branches turned in and packed lengthwise the hedge.—It can be kept down to a proper size by throwing a pole across and letting persons swing on each end, and moving it along the hedge, pressing in and trimming off the sides, or by throwing a plank upon the top and walking upon it. By turnning the hedge over from the fence after it gets up two or three feet high and packing it close down, the roots on the side next the fence are exposed, and will send up strong and vigorous shoots which turned in will add to the strength of the hedge. In turning the shoots in and lengthwise the hedge, I use forked Sticks. The hoe, or a plank two or three feet long with a hole in the middle for a handle is also used to an advantage. This process does not require very delicate management. Keep the hedge close and compact from the start, If the shoots are bruised and broken a little, better that, than allow them to remain as they spring up. I find that when planting in poor clay lands, to fill the ditch up with well rotted barn yard or stable manure, or rich earth from the woods pays well for the trouble, though I have grown hedges in clay without any soil or manure. After the hedge begins to grow any kind of manure placed around the roots on the top of the ground will be of benefit. The whole plan for a good hedge may be summed up as follows—plant deep—thick—pack the earth around firm—cultivate well—turn in the branches—pack them down and trim off—keep away the shade and allow nothing to grow among—If this plan be pursued a good and sufficient hedge, if planted in rich land, or if well manured, can be grown in three years. What I communicate is the result of experience. I have grown nearly thirty miles of Cherokee hedge in this manner. which turns all manner of stock. Yours very respectfully. A. K. Farrar.

Kingston Mississippi. Oct. 1852.

To Cook Parsnips.—Persons who have never eaten parsnips cooked according to the following mode, have no idea what an excellent dish they are. Scrape the parsnips, wash and slice them lengthwise; boil in just water enough to cover them when thoroughly done. Then put in a piece of butter, with a little salt and pepper Beat up an egg with a spoonful of flour, and pour over them they are then ready to dish up. Parsnips are likewise very good, split once and roasted with pork in the dripping pan.

Organic and Inorganic Substances.

The terms of *organic* and *inorganic* occurs so frequently in agricultural publications, that a proper understanding of the precise sense in which they are used agriculturally, may be of service to some of our readers.

All forms of matter may be divided into two classes or departments, organic and inorganic. Under the head of organic matter, is included "all such bodies as possess organs, on the action of which depend their growth and perfection."—Thus the bodies of all living anninals as well as their dead carcasses—all plants as well as their remains are to be regarded as organic matter, having once been *the seat of life*. Any thing produced by the agency of living matter properly belongs to this class, whether it exhibits a kind of *structure*, as in the fibre of plants and the muscle of the animal, or whether, as in the bodies of plants and annimals which have undergone decay, and where no evidence of structure remain. The changes which various animal and vegetable substances undergo, when submitted to different processes, such as burning, distillation, fermentation, &c., do not destroy their character as organic matter. Under the head of *inorganic* matter is included "the solid rocks and soils, the atmosphere, the waters of the seas and oceans; every thing which neither is nor has been the *seat of life*."

By a proper understanding of these terms, much that is frequently difficult of comprehension to the farmer unskilled in scientific terms, will at once become perfectly plain. But in attempting thus to render their true meaning as clear as it is possible in the brief defenitions we have given, we have no desire that inquiry should rest here. Every agriculturist should understand not only the difference between organic and inorganic matter; but he should be able to comprehend fully, not only what are the constituent parts of animal substances, but of every plant he cultivates. If this were the case, who is prepared to estimate the degree of perfection to which the science of agriculture might be brought? And yet, how few there are, who are willing to devote a single hour or even half hour each day to the acquisition of such invaluable knowledge.—*Farm Journal.*

Clergyman's Sore Throat.—I beg permission, through the Arkansas Christian Advocate, to advertise the clerical readers of that paper who are afflicted with sore throat, commonly called bronchitis—but more properly Pharyngitesi: that I have found an efficient remedy in Iodine.

Take of the Iodine of Potash, one drachm; Iodine, half a drachm; Water, one ounce; Gum Arabic, two drachms; White sugar, two drachms.

Mix and keep in a phial with a glass stopper. This wash is to be applied to the back part of the throat, the tonsils, and root of the tongue, with a camel's hair brush, the tongue being depressed by a spoon handle, or other suitable instruments. The many applications which I am receiving from different parts of the country, for particular information concerning this remedy, must be my apology for making this publication.

A. P. Merril, M. D.

Memphis. Sept. 28th, 1852.

Remarkable Yield of Potatoes.

The following remarkable yield of potatoes on the farm of our friend, Maj. J. D. Scott, near Pendleton, equal on the small piece of about one-eighth of an acre of land, to 895 bushels, on the whole of his crop, say 1000 bushels, to about 526 bushels per acre, is surely worthy of notice and record in the Farmer and Planter. The land, we are informed by Major S., has been cultivated for many years. The soil, rather sandy than otherwise, with a stiff, red clay subsoil. A part only (not half) had been manured by feeding stock on it, by the former proprietor—the balance had no manure on it recently that he is aware of.

It will be observed that the largest product from the small plat of land, was from slips, or rather plants drawn from the first planting, and set out as late as the 19th of May. And farther, that the crop was cultivated as recommended by our correspondent Jas. T. Furguson, Esq., in our May number. Who will say the Major has not received *more* than the price of the Farmer and Planter, in the additional quantity of potatoes produced by practising a mode of culture recommended in its columns. Besides he informs us he saved a horse recently by administering to him a remedy recommended by us for cholic. But with all the evidence we or others can adduce in favor of agricultural papers, we find men a stiff necked self-conceited class, daily condemning and abusing what they term "book-farming," and calling it by names which would better apply to themselves—humbug, &c., &c.

Maj. S. informs us his early cabbage commenced rotting in the fall—no unusual occurrence with us. This he effectually put a stop to by giving each head a liberal sprinkling of salt. This information alone, is worth to our subscribers one dollar each, yearly, yet they will derive it through "the book." No difference farmers and planters, and friends of *the* Farmer and Planter, teach one another:

Messrs. Editors:—For the interest of the readers of your valuable paper, I will give you the result of 20 by 30 yards of land planted in sweet potatoes, after the plan of Mr. J. T. Furguson, as published in your paper of May last. After planting the ground prepared, I had one end of the ground double furrowed with a twister, and let it remain till the 19th of May; I then drew slips, and set one every two feet (first throwing out the remaining middle, so as to complete the ridge) and cultivated them on his plan as near as I could in ridges instead of hills. The result was that I measured up one hundred and eleven bushels some of them weighing 3¼ lbs. My whole crop measured one and nine-tenths acres, and I will make over one thousand bushels.

J. D. Scott.

Pendleton, Nov. 1852.

According to a promise made in our las number, we proceed to give the following article from the Genesee Farmer, on

Smut in Wheat, and the Cause of It.

Messrs. Editors:—This being a season of the year when practical farmers have the most leisure time during the day, with long winter evenings in which to read, reflect, and learn the ways of men and things, I propose to furnish for your useful and widely circulated paper a few communications, containing statements of *facts* in relation to agricultural matters, as they "came to pass" with me, together with such inferences and opinions as I have formed upon those facts; and in as much as I have recently observed in newspapers some publications in which the old, absurd, and (as I had believed) exploded hypothesis of the "*fungus*" origin of smut in wheat is revived and inculcated, I will begin with that subject.

During the winter of 1833, while spending some months in Albany, I wrote and published in the Albany Argus, a series of articles, containing my observations and experiments continued through several years, in relation to the "cause of smut." Those articles were written in the plain, common language of the country *(as all such communications should be)*, and addressed to "*practical farmers*," as being the persons most immediately interested in the subject matter of them. A series of experiments through the past

sixteen years, has in every respect corroborated the statements made in my former publications on this subject. I will, therefore request you to insert the articles as follows:

NUMBER I.

I have read many essays on the subject of smut in wheat, and almost every writer has invented a new hypothesis as to the cause of it. In the *refinement* of their theories (like philosophers in most other speculations), they have, in my opinion, wholly "overstepped the modesty of nature," in their vague conjectures about "*invisible insects*," "*vitiating principles in the air*," *diseases arising from unseasonable cold and wet*," and that *smut is of an animal nature*, &c., &c. None of these theories or conjectures were satisfactory to my mind; but as I had not sufficient information to enable me to controvert them, or even with any propriety to question them, until very recently, I have remained silent, hoping that some one more capable than myself, would undertake a series of observations and experiments, which might result in a discovery of the true cause. Not being aware that any one has done so, and believing that some facts in my possession relating to this evil may be of service to intelligent farmers (by drawing their attention to it, if in no other respect), I will proceed to state them. It is perhaps proper here to premise, that for several years previous to 1830 my wheat crop had been considerably affected by smut; but by letting it remain in the field *uncut*, until it was thoroughly, or *dead* ripe, the smut grains became so perfectly dry, that when the crop was threshed, they were very nearly all broken. The dust was cleaned out by the fanning mill, leaving the wheat entirely free from the smut usually found sticking to the "*downy*" end of the grain. In the summer of 1830, finding that my wheat had an unusual quantity of smut in it, I determined, if possible, to discover the cause of it. I commenced my operations by pulling up the stools of the smut wheat and examining the roots. In all cases (and I examined a very great number) I found the roots mouldy and rotten the outer covering or "bark" had evidently been eaten off by some worm or insect; but of what kind I was unable to ascertain. After several days of fruitless examination, I accidently discovered on one of the smut ears a very small ash colored *bug*, about an eighth of an inch in length, something less than a line in diameter, and about a line in height. It appeared to be busily employed in gnawing its way into the husk or chaff of one of the smut grains; in a few moments it perforated the chaff, and began to feed greedily on the smut grain within. My curiosity was excited by seeing that little insect feasting, with much apparent satisfaction, upon a substance that I had always supposed no animal in the world would eat.—After some reflection, it occurred to me that many animals appear to have an innate knowledge or instinct, which pointed out to them the best mode of preparing their food; and observing that this bug seemed to be feeding on its natural aliment, I determined to make some experiments for the purpose of ascertaining what agency (if any) this species of bug had in the production of smut. On a careful examination, I found one or more bugs on almost all the smut ears. A day or two afterwards I took a clean glass bottle, into which, after much care and trouble, I succeeded in putting three or four smut ears with about a dozen bugs on them; a paper cover was then tied over the mouth of the bottle so closely that no insect could get in or out. The bugs continued to feed on the smut grains for about three weeks, when they all died. Thinking that they had probably deposited their nits or eggs in the smut grains, I took the smut ears and dead bugs out of the bottle, cleansed it thoroughly, brushed the dirt off the ears, and again put them into the bottle, which was closed as before. Within about four weeks I had a considerable number of young bugs hatched out, which immediately began to feed on the remaining smut grains. I kept them several weeks, until during autumn they all died also. J. H. H.

[TO BE CONTINUED.]

Effects of Feeding Cut and Uncut Hay to Milch Cows.—From a communication made to the Agricultural Society of Worcester county, Massachusetts, by Mr. William S. Lincoln, we make the following extract. We copy from the New England Farmer:

"My milking stock consisted of one cow, which came in the 29th of last October, the two trial cows, and one other which calved last April, and is expected to calve again the first of next April.—Some time before commencing this experiment, I was feeding my stock—what would be called poor stock—with hay with an allowance of roots. I commenced cutting this hay for all my stock, young and old (sixteen head), occupying me $1\frac{1}{2}$ hours daily. Almost simultaneously with feeding the cut hay was an *increase* of milk very perceptible as it was milked in the pail. An enquiry was made by my wife, who in person takes sole charge of the dairy, as to the cause of this increase. An evasive reply was made. From day to day the milk increased enough from the stock I have described, to require the substitution of 6 qt. for 4 qt. pans, which had been previously used. I think I am in bounds in saying the increase was over a pint daily, per cow, occasioned to the best of my knowledge, solely by the use of cut hay."

To the Patrons of the Farmer and Planter.

In assuming the position of assistant editors of the Farmer and Planter, we are not unmindful of the responsibility we have taken upon ourselves; but to aid those friends who have so nobly and perseveringly struggled on through every difficulty in the advocacy of a cause deeply interesting to all, we are prepared to bring whatever energy and ability we may possess to their support.

Trusting to the intelligence of those who take an interest in agricultural pursuits, to come to the aid of the gentlemen who commenced the good work of reforming the errors of the day in the tillage of the soil, and husbandry generally, we shall in this number begin our task.

To enable the Farmer and Planter to become an useful, welcome and comely visitor to the firesides of our friends in the south, and to bring up to the great cause that energy and talent which is capable of confounding the ignorance and prejudice which is so common amongst us, against agriculture as a system: yes we may say as a science, the pride of every planter should stimulate him to a renewed effort for its success.

Experience, talent and ability can only be brought to the maintenance of any cause by a generous devotion of those most deeply interested, and though we have no direct interest with the publishers of this paper, we think we can safely say for them that if a liberal support is afforded them, such a paper will the Farmer and Planter be made as to make it compare favorably in appearance and ability with any similar periodical in the union.

The Farmer and Planter is not what it ought to be, is not what it would have been if those whose interest it advocates had given it a warm and generous support at the commencement of its career. We can but admire the zeal with which it has maintained the necessity of agricultural improvement for the last two years, regardless of pecuniary compensation to the proprietors. If one tithe of the money so lavishly bestowed on objects of little moment, had been devoted to the support of this paper, the proprietors would have been enabled to embelish their sheet and call to their aid the ablest and most experienced writers in the country.

For them we now make a last appeal, and we ask all those who take an interest in the subject to unite with us in the endeavor to give to the people of our state such an agricultural paper as they may find worthy of their support.

R. F. SIMPSON.
FRANK BURT.

To Correspondents.

With acknowledgments and sincere thanks to our friends for the many encouraging letters received since our last, we desire to state that, we shall not in future notice letters received as heretofore, except such as make enquiries, and to which answers are expected either from ourselves or contributors. The receipt of all payments to the Farmer and Planter will be acknowledged monthly, in which we shall give the name and post office of each person from whom remittances are received. This will be found on our advertising sheet and will save us the trouble and expense of sending written receipts.

A subscriber in Edgefield asks the favor of us to give him "a minute description of a Shingle Machine which he has heard of in our district." He desires to know the "price and durability of both the horse-power and hand machine." Can any of our subscribers answer the enquiry. We know of no such machine in our district. If there is the owner ought to have advertised with us before now.

To our friend H. F. P., of Abbeville C. H. we would state that we purpose continuing the publication of one number, monthly, of the series of excellent articles on manure from our valuable exchange the Working Farmer, by Prof. Mapes, who needs no "cheering up" to give us "a little more grape," as he has already given us some *forty-three* numbers on this, to farmers, most interesting subject.

A subscriber asks us if we have made any experiments with Guano as a manure? We have. and one which satisfies us that the article may be profitably used, in both the cultivation of corn and the growing of clover. We intended to give it in our present number, but must, for want of room, postpone it till our next. We would say, however, to all of our readers, try it—and also we would like you to try Kettlewell's Fertilizer, advertised in our paper heretofore.

Acknowledgments.

To the polite Secretary of the N. Y. State Agricultural Society, we are under obligations for a handsomely bound copy of the transactions of the Society for the year 1852. This is truly a most valuable and interesting work, gotten up at great labor and expense by the society, and one the receipt of which is duly appreciated.

The Hon. J. L. Orr, places us under obligations for a neatly bound copy of the "Patent Office Report for 1852, No. 2, Agriculture," for which he will please accept our thanks.—We have not had time to notice the contents of this work, but a glance satisfies us that the paper is better, and the mechanical execution superior to any heretofore received from the office.

To some unknown friend, probably the editor of the Prairie or Wisconsin Farmer, we return thanks for a copy, in pamphlet form, of the "Transactions of the North-western Fruit Growers' Association, at their 2d annual meeting, held at Dixon, Ill., Sept. 29th and 30th, 1852."

Why can't our fruit growers hold such associations, and give us lists of reliable fruits for the south? We can't rely on such (generally) as succeed best at the north.

Our Exchanges.

Western Horticultural Review.—The 1st, 2nd and 3d numbers of volume 3, of this excellent exchange have been received in due time, and we believe from oversight, as it does not commence with the year, have not been noticed. To make amends for such neglect, we would say to the friends of the Farmer and Planter, if you want the neatest, cheapest, and the most reliable work on the various subjects of which it treats, send your three dollars forthwith, to John A Warder. M. D. Cincinnati, O.

Kentucky Cultivator.—We have received the 7th number, of volume 1, of this neat quarto of eight pages. By Atkenson & Williams, Covington, Ky. Monthly, at $1 per annum. We place it with pleasure on our exchange list.—Can the editors furnish us back numbers?

Pendleton Male Academy.

We are glad to see in the Carolinian so favorable a notice of the Pendleton Male Academy, by the Secretary of the Board of Trustees. Mr. Jones had charge of the school last year, and we can say that he is well qualified to discharge the duties of his school, and hope that its friends will continue the patronage it so justly deserves.

Peas.

We desire to call the attention of our readers to the advertisement of Mr. McKewn Johnson in the present number. We are induced to believe from the fact of this pea growing and maturing so finely in the mountains of North Carolina, that it will prove a valuable acquisition to farmers far north of us, as the section of country in which Mr. J. lives, is considerably elevated, and corresponds in the growth of plants to those found in higher latitudes.

Mr. Johnson says in his letter to us on the subject:—"On my removal hence from the seaboard of your State in 1851, I brought with me one peck of these peas, which I divided between two patches on my newly purchased farm. One patch was on a red clay hill, the other on a sandy creek bottom, in all 1½ acres; the whole product, I regret to say I did not measure, but I had (after my family, several friends, and my 21 or 22 negroes had partaken of without limit or restraint) threshed last spring what remained, and measured 18½ bushels of clean peas. I planted the last season 100 acres in corn. and put in peas with the whole of it, and should, I have no doubt, have made 1000 bushels had they not been extensively injured by the freshet of August last, which, you are aware carried destruction with it to all bottom land crops in all parts of the country."

Messrs. Editors:—In reading the Farmer and Planter, I observe cures and remedies for all grievances, domestic and agricultural. It enters deeply into the improvement of our soil, and facilitates the process of cultivation: by its energetic research, it would bring the light of science to the aid of the farmer; its motto is ever improvement in all things. To render this improvement more diffusive, there are other evils upon which it might make war, even more annoying than the wevil or the locust, the fly or the rust. If our reading, and sometimes mind does not point to a shadow where there exists no substance, there are evils which need pruning, and which come much more in contact with our peace and happiness, and as the correspondent of the Spectator used to aver, that errors denounced through his columns produced a better effect than counsel administered in any ordinary way, I will for the benefit of your youthful readers, transcribe some lines which I would fain believe were never realized, but that the writer possessed two much truthfulness and seriousness to doubt that such contrasts may exist: the last but *rarely* I would hope:

"The daughter has much in her power. She has youth and vivacity, and the charm always inseparable from youth, and she may have the still more enduring endearment of amiable temper and mental accomplishment. She may move in the sacred sphere of home as a ministering spirit of peace. and love, and joy. Parents may wax old, or be unfortunate, and the world will pay its court to the young and the successful, but in the heart of a daughter they can never be forgotten.

But it may likewise be otherwise. Because the path of duty to her is comparatively easy, is dictated to her by her affections, is demonstrated to her by every day's experience, it does not follow that she will walk in it. She may prove false to her obligations. And what a desolation does she make in the domestic circle! How can she wring the hearts of those whom she is bound by every obligation to love and cherish? Instead of acquiescing with cheerfulness in whatever her lot may be, she may annoy her parents by perpetual reflections and complaints. Instead of taking her share of the cares and toils which are inseparable from a family, she may refuse them all, and consider herself born for a higher lot than that of ordinary mortals. By the indulgence of a bad temper, instead of being the delight and pride of the domestic circle, she may keep her home in a perpetual broil. Alas! for that house that is under the rule of a termagant. There is no dagger so sharp as the tongue of an insolent, disobedient, ungrateful daughter. If any eyes could weep tears of blood, it would be the eyes of parents who have brought up a daughter to be their terror, their torment, and their scourge.

I have drawn this picture with unfeigned reluctance, but in treating of the sphere of duties of woman, I must state what *is*, as well as what *ought* to be, I must testify to the truth, the whole truth and nothing but the truth." Norna.

Treatment of Milch Cows, and the utilization of their Urine.

He who desires his milch cows to supply his family with milk, cream and butter through the winter, or to afford the latter in quantities for market, must provide these animals with such food as

they can secrete those substances from. Twice a day, at least, say morning and evening, they must be provided with chopt roots and cut hay, fodder, or straw, or with slops in which meal and bran form a part; for, however good the breed of cows may be—however distinguished they may be for their milk-yielding qualities, when grazing on verdant pastures it is unnatural to suppose that they can continue to yield milk, cream, or butter, in any considerable quantities, or of desirable quality, when the proper food is withheld from them to make it out of.—Besides such messes, they must also receive about twenty-one pounds, per day, of hay, fodder, straw, or its equivalent of long or cut provender of some kind.—We believe that, if such substances were passed through the cutting box before being fed out to them, that the condition of the animals would be greatly improved thereby, as the digestive organs could reduce it much easier into nutriment, than when given to them in its long state. Milch cows should be kept in moderately warm, though well ventilated stables or cow-houses; they should be regularly bedded, be kept dry and clean, curried and brushed or wisped down twice a day, and watered as often as they may be fed. In good weather, they should be allowed the privilege of the cow-yard for exercise.

And, in order that milch cows may be turned to the best advantage, their yards should be provided with a covering of a foot in depth of rough materials, fashioned slightty into a ditch-like form, the centre of the yard being lowest. All such rough materials, it is safe to affirm would be by spring converted into rich fertilizing manure; for it has been accurately ascertained, not by one, but by repeated experiments, that a healthy, well fed and well cared for cow, will excrete in 12 months, from 7,000 to 12,000 lbs. of urine; in every thousand lbs. of which, there are 40 lbs. of urea—a substance convertible into, and equivalent to, so much ammonia—0.10 lbs. of albumen, 1.90 of mucus or slime, Hippuric acid, .90 lb. Lactic acid, 5.16 lbs., Carbonic acid, 2.56 lbs.—these three last substances are combined with potash, soda and ammonia, forming salts—ammonia, 2.05 lbs., potash, 6.64 lbs., soda, 5.54 lbs., Sulphuric acid, 4.05 lbs., Phosphoric acid, .70 lb., chlorine, 2.72 lbs.—these three last substances combined with soda, lime and magnesia, forming salts—lime, .65 lb., magnesia, .36 lb,, alumina, .02 lb., oxide of iron, .04 lb., oxide of manganese, .01 and silica, .36. Now then if we take the quantity of ammonia susceptible of being made by a cow, through her urine. in a year, we find it ranging from 294·35 to 524.60 lbs. These quantities are to be looked for only when cattle are confined in the stable the year round, and the urine saved, and so cared for and treated, that the ammoniacal portions of it are not suffered to evaporate. But as the confining of cattle thus is not the fashion of our countrymen, we must conform to usage if we are to look for practical results. Those of our cattle that receive the care and attention that humanity and interest alike call for, are stabled, shedded, or yarded, seven months; but if we take six months as the average of winter treatment, then, allowing for slothfulness and inattention in husbandry, this precious liquid—and we call it precious, as every pound of the ammonia which it produces, will produce a bushel of grain—for the ammonia not only largely contributes to furnish the nitrogen of plants, but by acting as an active decomposer of the rough material by which it may be absorbed, converts such material into the food of plants, while the *urine*, besides this substance, so indispensable in all manure, has, within its own body, every other element that enters into, and builds up the structures of the whole family of plants upon which man, in his civilized state, depends for his own subsistence, clothing and comforts, as well as for those of his family and domestic animals; we say allowing for loss by slothfulness and inattention, we may calculate, that, by using the urine made into compost with proper absorbents, one-third of the ammonia may be utilized; or to come down to figures, from 100 to 175 lbs. of ammonia may be preserved during the general portion of the winter feeding, by even ordinary care, provided the necessary rough materials, such as woods-mould and leaves, pine shatters, and mould from pine woods, peat, marsh or river mud, or any other substances containing vegetable and animal matter, be so used as to absorb and take up the urine as voided, and that plaster be occasionally spread over such matters to arrest the loss of their volatile parts.

The theory is, that the urine of a cow in a year, if mixed with such absorbents as we have named, will manure—amply manure—1½ acres of land; but we believe, that, in practice, it would be found that 2 acres could be so abundantly fertilized by it as to prepare the soil to carry forward, productively, a rotation of crops of 3, 4, or 6 years, provided clover and the grasses formed an item in the rotation adopted. This opinion will not be questioned by those who reflect, that the rough materials enumerated contain, within themselves, all the constituents that are required by the wants of the cultivated crops, and that those materials will be rendered available by the decomposing influences of the urine.

In spring when the season comes for hauling out the manure, the cow-yard should be ploughed up to the depth of the rough materials, and the whole mass shoveled, and sprinkled over with plaster, or salt, as they may be shoveled over, to equalize the strength of the compost and prevent loss by the flying off of the ammonia.

If practicable, the farmer should have a supply at hand of the rough material, to occasionally cover the solid excretions of his stock, in order that a fresh body of absorbent matters may at all times be upon the surface.

Domestic Receipts.

The following valuable domestic receipts, was handed in to us for publication by a young Lady of this vicinity, to whom we return our thanks, and hope others may follow her example.

Plum Cordial.—One quart of plums. one gallon of brandy, one bottle of wine, (sugar to taste) after standing six weeks pour off and bottle.

Lemon Custard.—Grate and squeeze the juice from one lemon, one tumbler of mush, four eggs, with their weight in sugar and butter, a glass of wine. (bake in pastry.)

The Grahamites who enjoined abstinence from animal food, have invented a new dish which is said to taste so much like oysters, that it requires a connoisseur to distinguish the difference. It is called the Graham oyster, and is prepared as follows:

"Take young green corn, and grate it in a dish. To one pint of this add one egg well beaten, a small teacup of flour, half a cup of butter, some salt and pepper, and mix them well together. A table-spoonful of these will make the size of an oyster. Fry them a little brown, and when done butter them. Cream, if it can be procured, is better than butter.

Handle your tools without mittens.

Henology.

Mr. Editor:—As the hen-fever is getting up pretty high, up this way, and as some of the symptoms are begining to show themselves on my good wife, by occasionally hinting about eggs, chickens, hen-houses, &c., I thought I would ask a few questions of you, before dipping into the business, as you know, or ought to know, that we expect editors to be able to answer all questions.

Now what do you think of the variety called *Shank-high*, whose name don't belie them? I tell my wife they ain't got no body at all, and that when the head is cut off the legs come right apart,—am I right? She says, neighbor Buckingham's wife told her, they were the beatenest things to lay on the yeath, and that they'd sit and lay both at onst. I don't believe it, because it's contrary to nater, I think they only recline a little, as it were, and—Jerusalem! how can them things sit? my jack knife can sit as well as they can. And, I tell you Mr. Editor, they put things out of joint too, dreadfully. When neighbor Buckingham's wife got her *Shank-highs* home the other day, old Kink happened to hear the rooster crow for the first time, and not knowing anything about the matter, summoned half the niggers on the place to come and help get the old blink-eyed mule out of the crib. Judge of the exhibition of teeth and white eyes, on ascertaining the truth. Old Kink says, dey dont sit on de roost same as udder chicken no how, but dey sits straddle of de stick, cause why, when dey 'tempts to sit same as common chicken, de head ain't hebby 'nuff for de legs, and dey falls off backards. Correct philosophy that. They sit when they eat, I know, for I've seen 'em do it; and I've seen 'em try to eat standing, but its no go, for when they peck at a grain of corn on the ground, they don't more'n half reach it, but the head bobs right between their legs, making them turn a complete sommerset. They may be like a swinged cat, *worse than it looks*, and thats bad enough, any how. I'd as soon see a pair of tongs or compasses walking about the yard as these *Shank-highs*. And I had like to have forgot to tell you, that Pete says they are great liars, cause dey crows long time fore day in de morning, when 'taint day. Kink says, Pete don't 'fleet dat dey legs is so long, dey see day-light a long time 'fore common chicken.

With all the advantages and disadvantages, I am at a stand what to do, to get or not to get, that's the question.—What say you? Mohawk.

The Shanghai Chickens.

Our correspondent gives quite an amusing account of these celebrated fowls; but although we do not like them, and think there is a good deal of humbuggory about them, we cannot think his caricature is even just for that kind of discription. Those that we have seen are very large, and in our judgment must have coarse and stringy flesh, although they are differently represented. They resemble a discription of fowls which we have frequently seen in the country called the Buzzard breed which we know to be dark and coarse. We are satisfied if the better kinds of our country fowls were as well fed and cared for as those which are now engaging the attention of many persons, the difference in the number of eggs laid would hardly be mentioned, and the delicacy of the flesh we have no doubt be equal to any. We should not like to see a delicate young lady that we cared for, attack the thigh or drum-stick of a full grown Shanghai or Poland chicken.

We advise our correspondent, to persuade his good lady to stick to our country fowls, and to visit his corn crib oftener.

Cultivation of Flowers.

"Come, let me make a sunny realm around thee,
Of thought and beauty! Here are *books* and *flowers*
With spells to loose the fetter which hath bound thee
The rival coil of this worlds feverish hours.

"*These* are from where the soft winds play in gladness,
Covering the earth with flowry blossom showers.
Too richly dowered, O friend! are *we for sadness*
Look on an empire,—*mind* and *nature*,—ours.

Without intending to assert a *rival* interest for my present subject, or wishing to withdraw from, or diminish the importance of the more engrossing science of agriculture; I would yet in its proper place advocate the cause of the beautiful and ornamental portion of creation, the Floral Kingdom, which may not inappropriately be termed the feminine department of agriculture. "The mind ought sometimes to be diverted that it may return the better to thinking;" and surely there is no employment more delightful, and at the same time so conducive to health and enjoyment, as the cultivation of these lovely jewels of nature, which a kind providence has so profusely scattered over our bright world. Few occupations so liberally reward the time and care bestowed, or serve in the same degree to embelish our lives, or refine our tastes, and the passer by will never deem that, that *home* around which the vine is taught to twine and the rose to blossom is ever the abode of discontent or ennui. With flowers—"that were born to lend the sunbeam gladness:" and books—"Their swan-like music ringing through all woes." We may be induced to link our hearts only too strongly to this beautiful but transitory world.

The utility of another branch of horticulture, of prodncing a plentiful supply of wholesome vegetables and fruits is too obvious to render any argument necessary in favor of an attempt to facilitate the general acquisition of knowledge in this department. Gardening has not made that progress which might have been anticipated, and the neglect may be attributed to various causes; among the most prominent of which may have been, having to refer for information on these subjects to works published at a distance and unsuited to our soil and climate. The friends of the Farmer and Planter hope this deficiency will soon be supplied. Flora.

Plank Roads.

A writer in speaking of the benefits of plank roads observes that the farmer has what he never had before—a good road every day in the year—the same in all seasons, can select for his travel days when he cannot work on the farm, taking, with great ease, in half the time, three times what he could formerly carry. His wood-lands acquire a value that they never had before, from the ease with weich his timber or wood is carried to market. His farm increases in value from 10 to 15 per cent. The wear and tear to his horses, harness, and vehicle, is reduced at least one-half, leaving a surplus in his pocket after paying tolls, which would otherwise have been spent on repairs. His produce can be carried to market with one-half the expense attendand upon carrying it over the old road, from the increase in quantity he is able to carry at a single load; and he can with the greatest facility avail himself of all advantages of churches, and neighborhood and friendly intercourse.

Farmers take one and a half solid cords of green wood to market, when formerly a half or three-quarters of a solid cord was considered a load; 80 bushels of rye and 100 of oats, when formerly they carried but 40 or 50 bushels. This is done at the rate of four miles an hour, whereas three miles, with a team, was considered rapid traveling when the road was in tolerale order. A manufacturer at Utica, N. Y., formerly transported from the railroad to his establishment; a distance of seven miles, ten bales of cotton per day, with two teams, which made each but one daily trip; but on the recently constructed plank road one team performs the journey twice, delivering fifteen bales per day. The average weight of a bale of cotton is five hundred pounds. therefore one team is equal to the work of 75 cwt., while on the old road it was equal to only 25 cwt. And these loads are considered fair average burdens, without the energies of the team being unfairly taxed.—*Chicago Dem.*

A fellow coming out of a tavern one icy morning, rather blue, fell on the door-step. Trying to regain his footing, he remarked—"If, as the Bible says, 'the wicked stand on slippery places,' I must belong to a different class, for its more than I can do."